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# New species of Noctuidae (Noctuinae) from Nepal and Tibet

(Lepidoptera)

By Wolfgang Dierl

Entomological Department, Zoologische Staatssammlung, München

## Abstract

Three new species of the genus *Estimata* Kozhantshikov are described: *Estimata dhaulagirii*, *E. everesti* and *E. takkhalii*, all of them from the mountainous region of the Nepal Himalaya. The description is based on external and anatomical characters. Additionally two new species of the genus *Anaplectoides* are described: *Anaplectoides inexpectata* and *A. tamsi*, both from Nepal, basing primarily on genitalic characters. Two other species of this genus are mentioned.

## Introduction

In the course of the Nepal expeditions which were sponsored by Fritz Thyssen Stiftung and Deutsche Forschungsgemeinschaft and which took place in 1962, 1964, 1967 and 1973 a number of Noctuid moths was collected and later on studied by parts. Mr. Boursin examined the material but did not publish his results up to his death. Basing on these studies the descriptions of five new species of the genera *Estimata* and *Anaplectoides* from Nepal and Tibet are given. The specimens are kept in the collection of Zoologische Staatssammlung, München.

The genus *Estimata* is mainly distributed in the high mountain area in Asia and known to have females with reduced wings. Therefore it is not surprising to find just males in the present description. This is, of course, an isolating factor which may have influenced the development of distinct species within nearby habitats.

The genus *Anaplectoides* is mainly distributed in the area of the monsoon rain in the evergreen mountain rain forests. It is in fact a genus of the Asiatic monsoon area.

*Estimata* Kozhantshikov, 1923

Revue russe Ent. 22:92

Typus generis: *Agrotis herrichschaefferi* Alpheraky.

*Estimata dhaulagirii* spec. nov.

Male (Fig. 1) – Wingspan 24–25 mm, forewing length 12–12.5 mm. Size and markings are very similar to *E. oschi* Bang-Haas. The colouring is darker, less contrasting and violet brown. In contrary to *E. oschi* orbicular and reniform spots are not much paler than the ground colour. The reniform is more narrow, like *E. everesti* spec. nov.

Male genitalia (Fig. 5): As figured. Uncus short, broadened at middle, valva without pollex, similar to *E. herrichschaefferi* Alpheraky (Comp. Boursin, 1963, tab. XVIII, fig. 67).

This is a distinct species.



Fig. 1. *Estimata dhaulagirii* spec. nov., Holotypus ♂, C-Nepal, Dhaulagiri SO-Seite 3700 m, 10.–13. 7. 1973, leg. W. Dierl – E. Lehmann.

Fig. 2. *Estimata everesti* spec. nov., Holotypus ♂, Khumbu, Chukhung 4800 m, 10. 6. 1964, leg. W. Dierl.

Fig. 3. *Estimata takkhalii* spec. nov., Holotypus ♂, C-Nepal, Dhaulagiri SO-Seite 3700 m, 10.–13. 7. 1973, leg. W. Dierl – E. Lehmann.

Fig. 4. *Anaplectoides tamsi* spec. nov., Holotypus ♂, Khumbu, Khumjung 3800 m, 27. 6. 1964, leg. W. Dierl.

Types: Holotype ♂ and 3 Paratypes ♂. C-Nepal, Dhaulagiri SO-Seite, 3700 m, 10.–13. VII. 1973, leg. W. Dierl – E. Lehmann.

*Estimata everesti* spec. nov.

Male (Fig. 2) – Wingspan 20–23 mm, forewing length 8.5–10 mm. Very similar to *E. oschi* Bang-Haas, but of less size and darker in colour which is more bluish gray. In front of the subterminal line a series of triangular black spots. Underside not contrasting in colour, gray, with an undistinct spot at the discocellular. Male genitalia (Fig. 6): As figured. Very near *dhaulagirii* spec. nov. Uncus short, broadened at middle, valva without pollex. In *E. takkhalii* the uncus is longer and more narrow, the valva is shorter and broader.

Very near related to *E. takkhalii*, which is perhaps a subspecies. Types: Holotype ♂ and 4 Paratypes ♂. Khumbu, Chukhung, 4800 m, 10. 6. 1964 and 7.–11. 6. 1964, leg. W. Dierl. Paratype ♂. Khumbu, Periche, 4350 m, 29. 6. 1962. Paratype ♂. Khumbu, Lobuche, 4900 m, 7. 7. 1962, leg. G. Ebert and H. Falkner.

*Estimata takkhalii* spec. nov.

Male (Fig. 3) – Wingspan 18.5–20.5 mm, forewing length 9.0–9.5 mm. Very near *E. everesti* spec. nov., but distinctly darker, orbicular and reniform smaller, orbicular narrow triangular, reniform a stripe. Hindwings darker with distinct spot at the discocellular translucent from the underside. Underside of hindwings whitish gray to the outer line, then gray. Spot at the discocellular very distinct, contrasting.

Male genitalia (Fig. 7): As figured. The differences to *E. everesti* spec. nov. are pointed out at this species.

Perhaps a subspecies of *E. everesti* spec. nov.

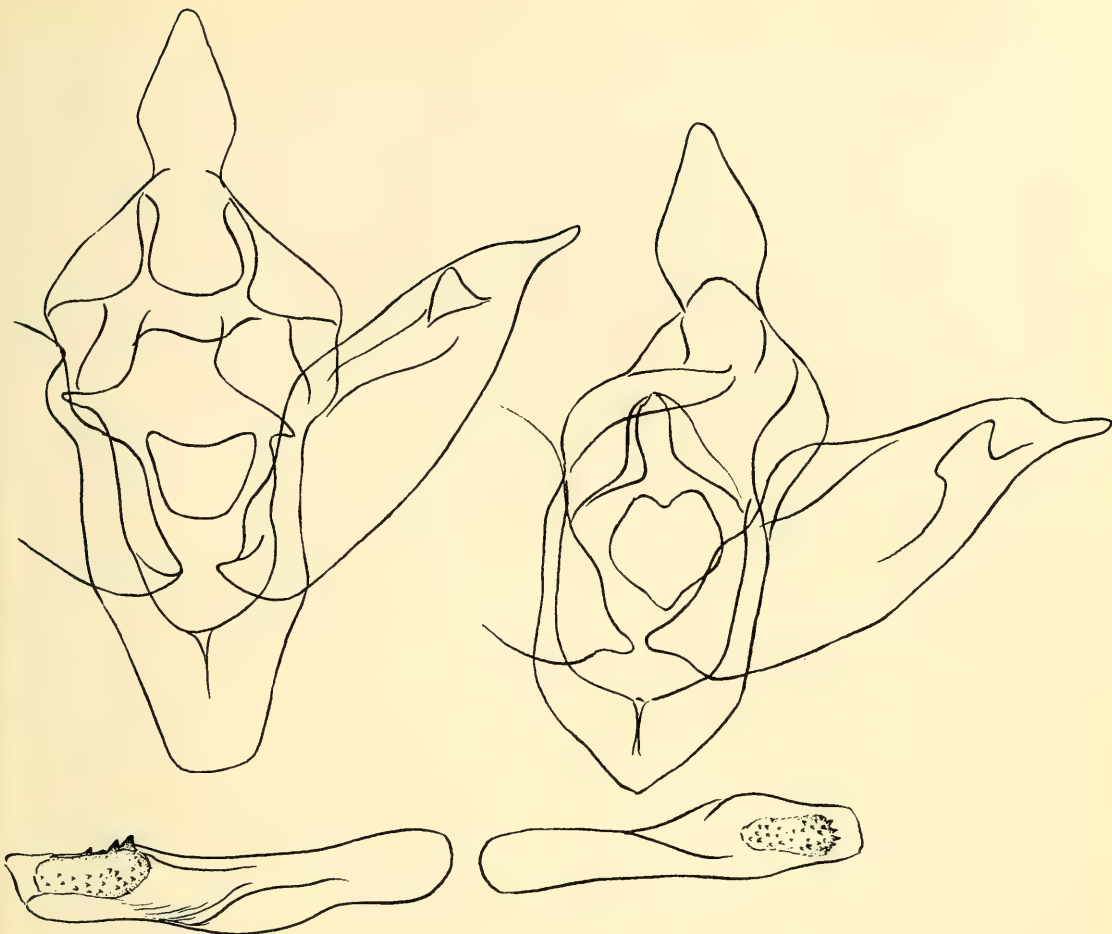


Fig. 5. *Estimata dhaulagirii* spec. nov.  
Male genitalia 20:1

Fig. 6. *Estimata everesti* spec. nov.  
Male genitalia 20:1

Types: Holotype ♂ and 2 Paratypes ♂. C-Nepal, Dhaulagiri SO-Seite, 3700 m, 10.-13. 6. 1973, leg. W. Dierl - E. Lehmann.

*Anaplectoides* McDunnough, 1929

Bull. Dep. Mines, Canada, 1928, 55:65.

Typus generis *Eurois pressus* Grote.

The combination of the species mentioned below is not yet clear, so, the nomenclature of this group is considered to be provisional.

*Anaplectoides tamsi* spec. nov.

*Anaplectoides tamsi* Boursin in Lit.

BOURSIN wanted to name this species basing on a large series of specimens. After a check of these series it became quite clear that there were two species which easily could be differentiated by their genitalic structure. Therefore, two new species have to be described.



Fig. 7. *Estimata takkhalii* spec. nov. Male genitalia 20:1

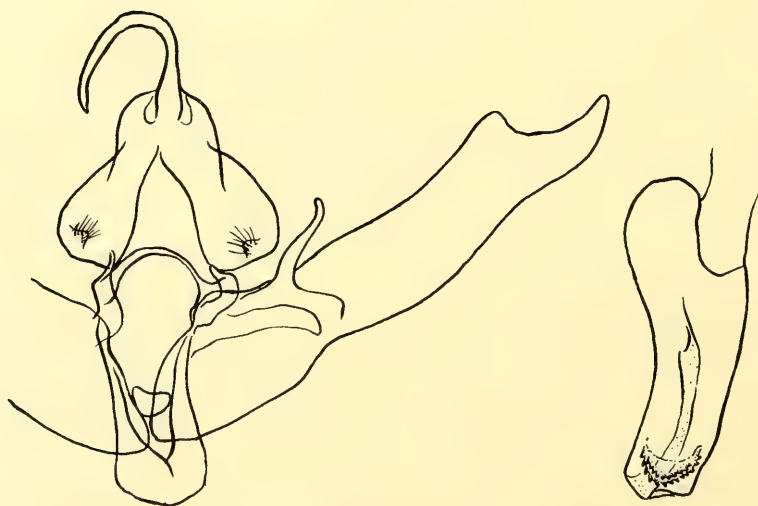


Fig. 8. *Anaplectoides tamsi* spec. nov. Male genitalia 8:1

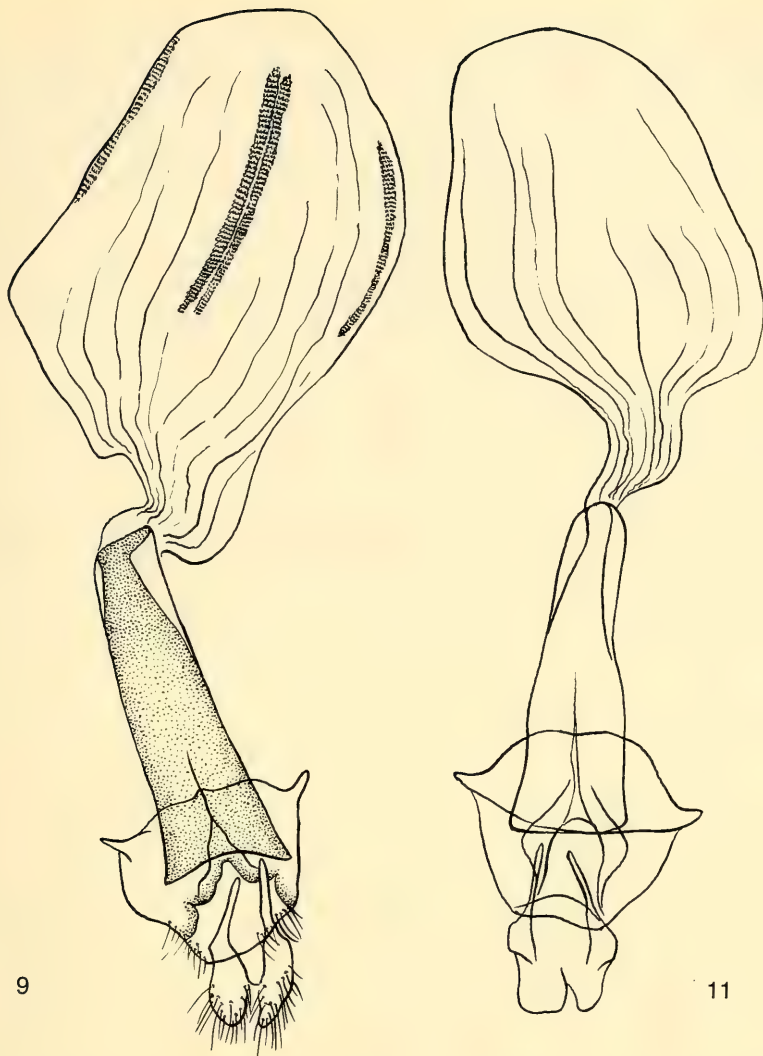


Fig. 9. *Anaplectoides tamsi* spec. nov. Female genitalia 5:1. The crenulated antrum and hairs are depicted in this figure only.

Fig. 11. *Anaplectoides inexpectata* spec. nov. Female genitalia 5:1

Male (Fig. 4) – Wingspan 54–57 mm. Under the name of *virens* Butler this species is described by HAMPSON (1894), but, in habitus it is almost indistinguishable from the following new species *inexpectata*. The same question arises with the description in Seitz, Vol. 11, in which a female from Darjeeling is figured. The species *virens* is described from Japan and could be found in the Amur-area and in China. Beside of the genitalia which come near *tamsi* the ground colour of the forewings is more greenish. The male genitalia (Fig. 8) are as figured. The main difference to the other species of the genus is the shape of the valva, especially the end which comes near a hook.

Female – Wingspan 56–64 mm. There is no difference between male and female beside of the larger size. There is also no difference to the female of the new species *inexpectata*. The female genitalia

(Fig. 9) as figured. The main difference to *inexpectata* is the presence of fore narrow bandlike signa which are missing in that species.

Types: Holotype ♂, Nepal, Khumbu, Khumjung, 3800 m, 27.6. 1964, leg. W. Dierl, Paratypes ♂ Khumjung, 18.6. and 13.7. 1964, leg. W. Dierl, ♂ 12.6. 1962, leg. G. Ebert und H. Falkner, 3 ♀ Khumjung, 21.5.–13.7. 1964, leg. W. Dierl, 1 ♂, 4 ♀ Thodung 3100 m, 21.5.–3.6. 1962, leg. G. Ebert und H. Falkner, 1 ♀ Godavari 1600 m, 10.6. 1967, leg. W. Dierl, 1 ♀ Pultschuk 2300 m, 14.6. 1967, leg. W. Dierl – W. Schacht. C-Nepal, Kyumnu Khola Valley 2300 m, 2 ♂, 13 ♀, 20.–24.5. 1973, leg. W. Dierl – E. Lehmann. Dhaulagiri 3700 m, 10.–13.6. 1973, 1 ♂, 6 ♀, Syang 3950 m, 4.7. 1973, 2 ♀, leg. W. Dierl – E. Lehmann. Tibet, Dsagar Berg 3000 m, Juli, 1 ♂.

Beside of the genitalic structures there seems to be a difference in the time of activity. The new species *tamsi* can be found from Mai to middle of July, while *inexpectata* is active from end of July to August.

*Anaplectoides inexpectata* spec. nov.

Male – Size and colouring are the same as in *tamsi*, like the female. The main difference can be found in the male genitalia (Fig. 10) where the valva is like a lancette and in the female genitalia (Fig. 11) which are without signa in the bursa.

Types: Holotype ♂, Nepal, Prov. East Nr. 3, Sete 2700 m, 1.8. 1964, leg. W. Dierl. Paratypes ♀ Sete 2700 m, 1.8. 1964, leg. W. Dierl. Junbesi 2750 m, 25.–31.7. 1964, 12 ♂, 29 ♀, leg. W. Dierl. Prov. Nr. 2 East, Bhandar 2200 m, 3.–5.8. 1964, 2 ♀, leg. W. Dierl. Gosainkund Lekh, Tharke Banyang 3600 m, 28.8. 1967, 2 ♂, leg. W. Dierl.

Beside of the genitalic structures the main difference is the time of activity which is from end of July to August.

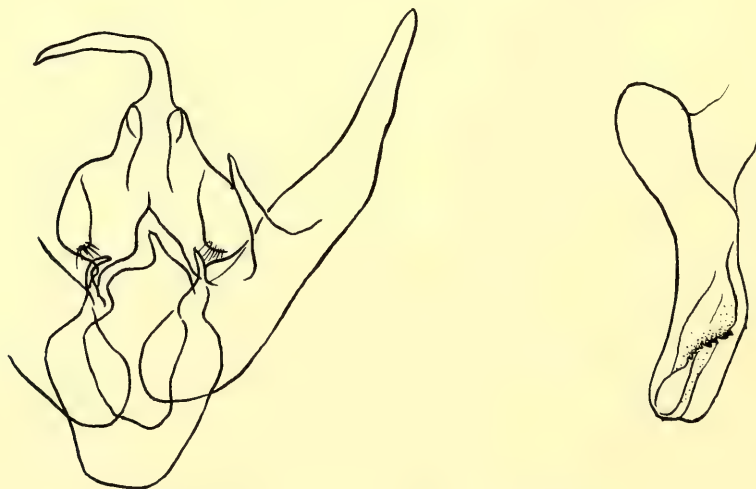


Fig. 10. *Anaplectoides inexpectata* spec. nov. Male genitalia 8:1

*Anaplectoides perviridis* Warren, 1912

This species can easily be distinguished by the smaller size and the mainly green colour of the fore wings.

East Nepal, Junbesi 2750 m, 25.–31.7. 1964, 1 ♂, 2 ♀, leg. W. Dierl. C-Nepal, Choklopani 2600 m, 22.6. 1973, 1 ♂, leg. W. Dierl – E. Lehmann.

In size this species is like *tamsi* or *inexpectata*, but the fore wings are in parts coloured reddish brown. The form of the valva in the male genitalia is distinct.

East Nepal, Junbesi 2750 m, 25.–31.7. 1964, 1 ♀, leg. W. Dierl.

East Nepal, Sete 2700 m, 1.8. 1964, leg. W. Dierl.

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Authors address:

Dr. W. Dierl, Zoologische Staatssammlung  
Maria-Ward-Str. 1b, 8000 München 19.